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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/716,350 11/20/00 ZHAO

B 99CON105P-C

EXAMINER

MMC2/0713

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CLARK, S.
ART UNIT

PAPER NUMBER

2815
DATE MAILED:

07/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/716,350

Applicant(s)

Zhao

Examiner

Sheila V. Clark

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-68 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-37, 40, 41, 44-55, 58, 59, and 62-68 is/are rejected.
- 7) ☒ Claim(s) 38, 39, 42, 43, 56, 57, 60, and 61 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 33-37, 44, 45-48, 51-55, 62-66 are rejected under 35 U.S.C. 102(b) as being anticipated by DiStefano et al.

DiStefano et al shows in for example figure 9 a first top interconnect metal pad 100a, first via pad structure below said pad comprising a plurality of segments formed of two side wall segments formed by metal layers 76,80 and a first plurality of dielectric fillers 92 (see col. 13, lines 4-7). Said side walls surfaces are shown to contact top interconnect 100a. Col. 12, line 2 discusses use of copper as a via metal. A second metal bottom metal interconnect is also shown opposite said first.

The method of making the device of DiStefano et al is deemed to inherently possess the steps of fabricating.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 40, 41, 49, 50, 58, 59, 67, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiStefano et al.

DiStefano et al in col. 13, line 6-8, fails to limit the dielectric filler to any one particular material and suggests use of a many "suitable" materials well known in this art which include those well known polymer materials.

Claims 33-37, 40, 41, 44, 45-48, 49, 50, 51-55, 58, 59, 62-66, 67, 68 are rejected.

Claims 38-39, 42, 43, 56, 57, 60, 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Gelorme et al, Kunitomo et al, Omoya et al, Hase et al, Gallagher et al, Fujisawa et al, Yagi et al, Gilleo et al and Chung are cited to show bond pads formed with dielectric filler material.

Any inquiry concerning this communication should be directed to Examiner S.V. Clark at telephone number (703) 308-4924.

June 26, 2001


SHEILA V. CLARK
PRIMARY EXAMINER